

## SPECIFICATION

AHB Sigma Series consoles are analogue sound mixing systems utilising modular construction. All active modules are designed and constructed for applications where versatility of operation and high sonic quality are vital for success. Individual module types are described in detail later and mainframe dimensions are illustrated.

### GENERAL SYSTEM SPECIFICATION

#### Input and output capacity:

Mixing and output for 24 mono groups at line and 300mV level.  
Mixing and output for one main stereo group plus mono sum of stereo group.  
Mixing and output for eight auxiliary sends.  
Mixing and output for PFL/AFL in stereo.  
Output for two stereo CUE systems.  
Output for two stereo loudspeaker systems.  
Output for headphones.  
Output from oscillator and talkback systems.  
Input for balanced microphones.  
Input for balanced line sources; tape, effects, instruments, etc.  
Input for unbalanced line source at 300mV operating level.  
Input for monitoring stereo line sources.  
Insertion points in all main signal paths.

### PERFORMANCE SPECIFICATION

The following performance figures apply to a typical Sigma configuration for 24 track operation.

GAIN: measured between input and output with controls set for normal operation.  
microphone input, variable 70dB to 30dB. Additional 20dB pad.  
Line input, +4dB, variable between -4dB and +20dB.  
Tape input, unity gain, variable between -8dB and +16dB.  
Tape input (low) has fixed 12dB gain stage in addition.  
Return input variable up to +10dB.

Standard analogue faders for input, group output, main stereo outputs and monitor input all provide an additional 10dB gain when operated to maximum travel.

**NORMAL OPERATING LEVEL:** for OVU indication is +4dBV (1.23V RMS) sine wave at all line level inputs and outputs except the Tape Low circuits which are 300mV RMS for OVU.

**MAXIMUM OPERATING LEVEL:** balanced outputs +22dBV (9.75V RMS) 600 ohms minimum. Unbalanced outputs +22dBV (9.75V RMS) 5k ohms minimum. Balanced outputs M470 modules +26dBV (15.5V RMS) 600 ohms minimum

**INTERNAL OPERATING LEVEL:** 0dBV (0.775V RMS) at insertion points and faders.

**PHASE:** all input and output connectors are in-phase except group insertion points which are inverted phase.

**Phase convention:** + pin 2 or tip contact  
- pin 3 or ring contact  
common pin 1 or case contact

**BANDWIDTH:** measured at maximum gain mic input to output ref 1kHz.  
20Hz -2dB - 20kHz -0.5dB.  
Measured at unity gain line or tape input to output ref 1kHz.  
20Hz -1dB - 20kHz -0.5dB.

**EQUALISATION:** module equaliser section details are given in the module descriptions.

**NOISE:** figures are referred to OVU output level and measured with 20kHz bandwidth RMS meter unweighted.

Group output noise, fader at unity, no sources:	-90dB.
Group output noise, with one line input at unity gain, EQ flat:	-86dB
Group output noise, fader at unity, 24 sources with faders closed:	-80dB
Stereo output noise, fader at unity, no sources:	-80dB
Stereo output noise, with one line input unity gain, EQ flat:	-79dB
Stereo output noise, fader at unity, 24 sources with faders closed:	-75dB

Microphone input noise -127dBm referred to a 200 ohm input.

Aux output noise, output at unity, sources closed:	-80dB
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DISTORTION: measured as the sum of harmonic products and noise over a 20kHz bandwidth. Input to output at unity gain below clipping less than 0.08% at 100Hz, 0.02% at 1kHz, 0.05% at 10kHz typically 0.005% at normal operating level.

Mic input to output at maximum gain below clipping less than 0.08% at 100Hz, 0.05% at 1kHz, 0.05% at 10kHz typically 0.01% at normal operating level

DISTORTION: measured as intermodulation products 50Hz + 7kHz 4:1 method. Input to output at unity gain below clipping less than 0.025%

Note: distortion figures exclude distortion contribution from fader automation.

CROSSTALK: residual at measured output compared with input or hostile output. Unweighted.

L-R separation: 100Hz to 10kHz better than 60dB at main stereo output.

Output group separation: input via assign and pan to output; 100Hz to 10kHz better than 60dB.

Input mute shut off: better than 100Hz 70dB, 1kHz 75dB, 10kHz 60dB.

METERING: VU Versions: 75mm illuminated Sifam AL29 type, group monitor meters 90mm illuminated Sifam AL39 type, monitor L - R meters 0VU = +4dBv = 1.23v RMS, 1kHz

Bargraph Versions: 20 segment LED bargraph, vertical orientationCalibrated -24dB to +12dB in 2dB steps

Rise and fall times emulate broadcast PPM characteristics

Full wave rectifier

Calibration: nominal 0dB = +4dBv = 1.23v RMS. Range 0dB = +6dBv to 0dBv by individual adjustment of module meter trim preset

All Versions: Aux output bargraphs, 5 segment VU characteristic LED bargraph